SUMMARY OF RESULTS

The Coastal Plain of southeastern North Carolina is a critical part of one of the most biologically diverse regions along the Atlantic Coast north of Florida. The area from Carteret County in North Carolina to Georgetown County in South Carolina, and extending inland to the Sandhills Region of both states, is a center of species diversity, with many plants and animals not found elsewhere. This region is known as the Cape Fear Arch (Figure 4). Sampson County is central to this area and forms a direct link between the ecosystems of the Sandhills Region and those of the central and outer Coastal Plain. Sampson County hosts a moderately high diversity of natural communities and native plants and animals because of the diversity of terrestrial, wetland, and aquatic systems found within its physiographic areas: the dry upland interstream terraces, the Carolina bay complexes, and the slopes and floodplains of its rivers and streams.

The great majority of habitat found on the ancient marine terraces that form the central, northern, and eastern regions of Sampson County has been converted to cropland or otherwise has been altered by human settlement. The western and especially southern portions of the county contain the majority of extant natural habitat. It is in these areas where the greatest number and acreage of natural areas occur, and where the greatest diversity of natural communities and native plants and animals is found. This is due in part, and seemingly ironically, to the lesser fertility of soils in that part of the county, and to peatland swamps in the Carolina bays and low flats that are difficult or impossible to convert to other uses. In the sterile sands of bay rims and upland terraces, agricultural conversion largely has been limited to pine plantations, animal farms, and blueberry crops. But these sterile sands and wet peats are highly suitable for the species and communities of the longleaf pine and pocosin (peatland swamp) ecosystem that have adapted to them over the millennia. Because of the flatness and limited drainage, portions of this area are permanently saturated by groundwater and form extensive pocosin communities with nearly impenetrable shrub layers beneath a sparse to dense canopy of pond pine. These pocosins are most abundant in the elliptical basins of Carolina bays, with the surrounding bay rims and adjacent upland flats supporting wet to dry longleaf pine communities where not altered for other uses. These pocosin and longleaf pine communities have been naturally regulated by fire historically, and the plants and animals that inhabit them are either fire adapted or fire dependent. Ten of the 17 standard sites identified in the county are associated with the longleaf pine and pocosin ecosystem.

Although for the most part the terrain in Sampson County is flat, the rivers and streams have carved through the upland terraces to produce banks and slopes that rise more than 75 feet above the floodplain in the southern part of the county. In some places, the slopes are so steep that they cannot support trees and are characterized by slumping associated with river erosion. The levees and floodplains associated with these waterways nuture forests dominated by hardwoods, or by hardwoods and cypress. These forests are subject to periodic flooding and naturally experience fire only rarely or not at all. The remaining seven of the standard sites identified in the county are associated with the floodplains and active channels of these rivers and streams.